

CLAIMS

1. A rapid thermal anneal system with reflective index monitor, comprising:

a chamber wall defining a chamber interior;

a reflector plate provided in said chamber interior;

a plurality of lamps provided in said chamber interior above said reflector plate;

at least one monitor opening provided in said chamber wall;

a reflective index monitor provided in said at least one monitor opening, respectively, for monitoring a reflective index of said reflector plate;

a process controller operably connected to said reflective index monitor and said plurality of lamps; and

wherein said reflective index monitor sends a signal to said process controller and said process controller terminates operation of said plurality of lamps when said reflective index of said reflector plate deviates from a reflective index of a control value.

2. The rapid thermal anneal system of claim 1 wherein said at least one monitor opening comprises a plurality of monitor openings.

3. The rapid thermal anneal system of claim 1 further comprising an alarm operably connected to said at least one reflective index monitor for receiving a signal from said reflective index monitor when said reflective index of said reflector plate deviates from said reflective index of said control value.

4. The rapid thermal anneal system of claim 3 wherein said at least one monitor opening comprises a plurality of monitor openings.

5. A rapid thermal anneal system with reflective index monitor, comprising:

- a chamber wall defining a chamber interior;
- a reflector plate provided in said chamber interior;
- a plurality of lamps provided in said chamber interior above said reflector plate;

at least one monitor opening provided in said chamber wall;
a reflective index monitor provided in said at least one monitor opening, respectively, for monitoring a reflective index of said reflector plate;

an alarm operably connected to said reflective index monitor;
and

wherein said reflective index monitor sends a signal to said alarm when said reflective index of said reflector plate deviates from a reflective index of a control value.

6. The rapid thermal anneal system of claim 5 wherein said at least one monitor opening comprises a plurality of monitor openings.

7. A method for detecting contamination on a reflector plate situated in a rapid thermal anneal chamber, comprising the steps of:

providing a rapid thermal anneal chamber comprising a chamber wall and a reflector plate in said chamber wall;

providing at least one monitor opening in said chamber wall;

67,200-699
2001-0458

providing a reflective index monitor in said at least one monitor opening, respectively, for measuring a reflective index of said reflector plate; and

sending a signal to a process controller when said reflective index deviates from a reflective index of a control value.

8. The method of claim 7 wherein said at least one monitor opening comprises a plurality of monitor openings.

9. The method of claim 7 further comprising the step of providing an alarm operably connected to said reflective index monitor and sending a signal to said alarm when said reflective index deviates from said reflective index of said control value.

10. The method of claim 9 wherein said at least one monitor opening comprises a plurality of monitor openings.